

Process and Methodology for Economic Value of On-Premise Signs Research by the University of Cincinnati

Approach and Objectives of the Study

An interdisciplinary collaborative team from the University of Cincinnati is responding to the SFI's Request for Proposals by submitting this research proposal to address the Economic Impact of On-Premise Signs. The aim of this foundational research initiative and research agenda is to advance both the theory and the practice of on-premise signage in assembling a multidisciplinary team of academic scholars and professions to embark on an in-depth examination and critical study of on-premise signs and environmental signage to evaluate the immediate and long term impact within the physical and economic environment. The objectives of the proposed comprehensive study are to:

- Established an unbiased and verifiable base study;
- Establish a set of evaluation criteria for continued assessment and mapping of changing circumstances;
- Establish an understanding of the state of current knowledge;
- Address the economic impact on businesses and the local economic environment; and
- Address the effects of new technologies and effects of regulation.

Work Plan

The final report will be organized into four sections. The first three – State of Knowledge, State of the Industry and Culture, and Economic Impact – each focus on a particular component of the core economic analysis task. The fourth section – Scope and Issues in Other Research Topics – brings together considerations from other disciplines that have substantial effect on economic impacts.

Section 1. State of Knowledge

Part A. Previous study and subsequent research. The 1996 research study conducted and support by several southern California sign industry partners and the University of San Diego School of Business Administration has been held up as an important research study

containing a baseline of on-premise signage data and it can serve as a model to develop other comprehensive studies. The *Economic Value of On-Premise Signs* provides a partial outline for subsequent studies and up-dated data. Although the previous study was a significant piece of research at the time it was released, it is now dated and its validity is uncertain. This study will critically analyze the On-Premise study to validate methodology used and parameters considered.

Others have continued to bring forth new data and analysis. Subsequent research has generally been less detailed and often held as proprietary by the sign industry and sign fabricators. As a result, the quality of the information and the analyses based on it are, at least in some cases, untested. Accordingly, an examination of the quality of some of the more widely cited industry statistics can also serve to benefit decision-makers and help to make the case for giving attention to the results of this proposed study.

Altogether, research in the field, which has been described by industry leaders as “a shotgun approach,” lacks a broad and strategic vision. Meanwhile, both private decisions (by businesses) and public decisions (by local governments) are frequently based on this research, and more often not based on any research because existing studies and data are not adequately disseminated. This points to the need for new research.

Part B. Assumptions embedded in existing regulation. Regulations and codes are set by governmental agencies and local sign codes and ordinances. The study will review the general assumptions embedded with the standard codes and ordinances to establish variations and differences to pattern needed changes. New research, changes in demographics, and variables such as regional circumstances, traditions, and value differences among residents concerning aspects such as aesthetics and form character, as well as a lack of access to up dated information and technical developments will be included. Biased attitudes, language, and interpretations within local ordinances and sign codes based on the Signage Sourcebook (which has not been updated since 2003) must be examined.

Part C. Other data. At the present time, there are few data with sufficient detail, scope, and accuracy to serve current research needs. Several sources of credible data need to be incorporated into a significant study. Often data is too general and doesn't allow for regional

and local conditions and cultural variations. Changing demographics, new technologies, and updated research often is overlooked or not accessed. Local conditions such specific character area locations may require special data gathering and criteria definition that will have to be assembled. This part will identify data criteria and current data gaps.

Section 2. State of the Industry and Culture

Part A. Description of industry characteristics. The signage industry is an important contributor in the American landscape. The traditions of the on-premise sign have deep cultural roots that have supported the American business enterprise for over two centuries. The sign industry is in need of a clear picture of the future of on-premise signage and the changing landscape of business communication. The problems and challenges of signage as an on-premise component of the American business environment will be impacted by EMC and advances in lighting technologies that will be married to many environmental concerns and conditions. These issues must be clearly explained and the challenges articulated.

Part B. Description of the cultural milieu. The small business depends on signs as effective means of communicating location and identification of services. The development of GPS systems and other electric devices will affect the nature and viability of on-premise signage. The role of the sign industry will change as the scope of communication and the user base population transitions into a common digital interface mode of communication.

Part C. Explanation of how these affect the economic impacts. The economic impact on the on-premise sign industry will be effected by changes interface. Electric messaging centers and personalized digital devises will require other mediums in signage and on-premise signs supported by technical advancements and electric technologies. Identities of businesses and branding strategies will evolve to define opportunities requirements for change.

Part D. Painting the picture of the industry. The signage industry is dominated by small business entrepreneurs, whose contribution to the American economy might be characterized as “hidden in plain sight” because it is highly visible but often overlooked. In just the past fifteen years, the competitive environment for the industry has been dramatically changed by the introduction of new technology that has profoundly affected both the industry’s client

businesses and those businesses' customers. Concurrent with these shifts, new technologies for signs and new understandings of the role of various factors of design and human communications have brought new opportunities and challenges.

Section 3. Economic Impacts

Part A. Impact of the Sign Industry. The first economic impact component is the industry of sign manufacturers. The research project will describe the industry, including its business characteristics, total employment, and the economic impact of the operations of these businesses. While this component is just the tip of the iceberg, it is the engine that propels the other three components. This part will involve tracing the expenditures associated with the sign industry through the sectors that supply intermediate goods. This impact will also allow us to model how changes in regulations would affect the economy: for example, a law requiring expenditures to upgrade signs would cause spending that would circulate through the economy in this way. Similarly investment in new technology also generates economic impact. This may be a substantial number, particularly for an audience within Small Business Administration.

Part B. Impact of Signs on Businesses. The second economic impact relates to the millions of businesses that purchase these signs. Here, the economic impact consists of the impacts that the signs have on sales, along with the related benefits of increasing brand identity, etc. This economic impact was the focus of the 1996 study and has continued to receive attention from other researchers such as King.

Among the research challenges to be addressed by this research are the following considerations. When estimating economic impact at the establishment level, there are many independent variables, including ones number that are of unknown or unknowable magnitude, thus making it impractical to create a simple methodology. For many, if not most, businesses, their increased economic impact is offset by a decrease for others within some geographic area – a point raised during the 2010 conference. Consequently, impact calculations are heavily dependent on the geographic level of measurement, whether the impact is for all or only particular businesses (aggregate v distribution), and the extent to which leakage to internet

sales is a factor. The distinction that must be drawn here between the creation of business and the redirection of business also has implications for community impacts.

Part C. Impact of Signs on Customers. The third type of impact relates to the customers of those businesses. This is an often overlooked, but highly important dimension of the impact of on-premise signs. The just-named recipients of this year's Nobel Prize in Economics were recognized for their research into situations when markets do not work efficiently (search and matching theory); this research has implications for the sign industry because the primary purpose of on-premise signs is to inform potential buyers of a) the existence of willing sellers, and, often, b) the types and prices of the items for sale, thus reducing the most significant inefficiencies that customers typically face.

Customers' search and matching costs include the opportunity costs from spending additional time finding goods and services. Businesses and communities may also experience costs. For this section, we use this well-developed theory to model the process of a consumer meeting prospective stores. The consumer must make a decision—informed by any available signage—about the shopping potential of the store versus the option of continuing to future opportunities. This theory can develop several predictions that we can test with available data, such as the impact of a more visible sign on “downstream” businesses; in addition, better quality signage can lead to less total driving, increasing safety as well as savings in terms of travel costs.

Part D. Impact of Signs on Communities. The final impact component concerns the surrounding community. By facilitating the sales by businesses to customers, this impact is extended to the broader community through economic growth (especially through increased employment and wages) and a stronger base for sales, income and property taxes. Just as important are the aesthetic impacts on communities of quality signage. These include contributions to a sense of place and identity, as well as building bonds of identity, social capital and community pride.

Within this section, there are also elements that cut across two or more parts. One is the cost of business failures from bad signage; these costs are borne by individual business owners (and their families), employees, lenders, and communities.

Another is the impact of internet & e-businesses. The internet presents competition for business sales, and it provides a substitute medium for signage and advertising. Sales to e-businesses constitute economic leakage that affects both businesses and local governments. The availability of smart phones means that internet access can now be achieved “on-the-go.” Evidence will be sought on how this relates to the impact of signs

A confounding consideration is that in measuring trade redirection, it is not possible to positively identify where business was lost because of signage. In addition, the absence of data from failed businesses will create an upward bias in impact calculations.

Another consideration, noted earlier, is that it is quite likely that merely extrapolating the results from a single business into an entire community would overstate the impact of improved signing: this is because of the effects that businesses have on each other, for example competing businesses may lose market share, while nearby vendors might actually benefit from the increase in foot traffic (economists refer to these effects on third parties as externalities). Specifying an impact in aggregate on an area depends heavily on the composition of businesses in that area and the extent to which they relate to each other in ways that are not observable in large, administrative datasets.

Section 4. Scope and Issues in Other Research Topics

Beyond the preceding work, there is a broad research agenda in need of investigation. In the following areas, the work plan envisions the use of white papers, limited case studies, and graduate student projects to explore topics in a manner that allows for completion within the 7-8 month timetable specified by SFI.

Part A. Signs and marketing (business dimension). The College of Business has two vehicles for leveraging graduate student research to bring theory to practice. One is the Marketing Capstone projects; for example, students could work on the problem of a sign business trying to determine how to get into a new technology, which would probably be an

attractive element for SFI. Another would utilize Quantitative Analysis' culminating projects for graduate students, such as optimization modeling to determine the relative importance of various design and placement elements in order to facilitate optimal signage.

Part B. Signs and regulation (planning dimension). Considerations include connecting local planning decision to decision makers understanding and appreciation of local economic and fiscal impacts, and how these are balanced with concerns for aesthetics and broader quality of life concerns. Student involvement will include skills in GIS, urban design and local economic development.

Part C. Signs and aesthetics (design dimension). Exploration of the designer's role: advocates of aesthetics & process. The overall value of design is rooted with the premise that design is not simply the final result or an end product, but is a valuable process that creates a diverse array of strategies and solutions that can be applied to multiple mediums not limited to, but including signage. Designers, through training, experience, and inspiration are empowered with the skills and insight that allow them to become the stewards and advocates for the proper usage and execution of design principles across many dimensions.

This process allows designers to translate ideas into innovations for complex, layered design problems such as branding, identity, signage and information graphics. Through the proper stewardship and translation, brands and signage create a valuable asset for businesses, communities and the public at large. Information that is well designed, follows the accepted principles and standards of design is embraced, and serves as a model for others to use as a baseline.

The Designer plays a critical role in translating design fundamentals to meet the needs of context, brand, interpret the nuance of codes, and envision the potential for technology to shape culture. Signage and environmental graphics are only some of the elements that not only determine culture, but define the identity and ultimately the perception of corporations, communities, and organizations.]

Part D. Signs and new technology (engineering dimension). Dr. Jason Heikenfeld will provide further exploration of the topics covered in his 2010 conference presentation.

Summary. An assessment of how these and other factors contribute to the impact that on-premise signs have on individual businesses is a much more complex research aim that should be seen as a multi-year program. Furthermore, inasmuch as this research agenda is multi-disciplinary in nature, it should be pursued as a collaborative effort across a range of academic departments (perhaps even between several universities), and in collaboration with industry leaders and consultants.

Section 5. Conclusions & Recommendations

Why adopt this approach?

By creating a compelling case for the importance of on-premise signs, the potential for future research funding from other sources is enhanced. These sources range from large corporations, to business associations, such as the US Chamber of Commerce and the National Federation of Independent Businesses, to government agencies, such as the Small Business Administration.

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